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In Support of Reacquainting Functional Contextualism and Interbehaviorism

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Abstract

In the target article 'Functional and Descriptive Contextualism' the argument is made that Functional Contextualism may benefit from the Interbehavioral tradition. This commentary supports this perspective. The Functional Contextual approach is elaborated, and some of its weaknesses are highlighted. Following this some descriptions of analyses of complex behavioral events are presented, which permits a comparison of Functional Contextual and Interbehavioral approaches to such events. The ways in which Interbehavioral concepts proved to be of use in our analyses are then described. The implications of these concepts for Functional Contextualists are discussed.

Keywords

Interbehaviorism; Functional Contextualism; Private events; Complex behavior

Highlights

- Argue for closer contact between Functional Contextualism and Interbehaviorism
- The pragmatism of Functional Contextualism is elaborated
- Interbehavioral concepts of use to Functional Contextualists are described
- Examples of the use of these concepts are provided

In concluding their article L.J. Hayes and Fryling suggested that “Interbehaviorism and Interbehavioral Psychology may be of service to work in Functional Contextualism.” (L.J. Hayes & Fryling, 2019, p 125). We find ourselves in firm agreement with this sentiment. Indeed, this is precisely what we have found in our own analyses of behavior. Specifically, when our experimental analyses pushed to the edge of conceptual analyses produced with a Functional Contextualist approach we found ourselves reaching for concepts that are clearly articulated within Interbehaviorism. Critically, some of these concepts are underemphasized within the existing Functional Contextual approach. In light of our experiences part of our commentary will involve outlining what emerged for us as issues with Functional Contextualism, and the Interbehavioral concepts that proved useful to us. The objective is not to champion one or other perspective. Instead, our purpose is to illustrate with specific examples how these two philosophical approaches may complement each other.

Before proceeding it seems appropriate that we note some features of both Functional Contextualism and Interbehaviorism relevant to our analyses of behavior. Although the survey is not exhaustive, it does provide an opportunity to comment on arguments made regarding each approach that are presented in the target article. We begin a brief discussion of the merits of Functional Contextualism, before then describing how the analyses we offer here were complemented by adopting concepts from Interbehaviorism.

The merits of Functional Contextualism

Pragmatism is a commendable and perhaps defining feature of Functional Contextualism. By stating its pragmatism explicitly Functional Contextualism encourages analysts to engage in related practices; for example, by clearly stating goals in advance of analyses and encouraging assessment of progress toward these stated goals. We should note that insofar as Functional Contextualism is one variety of contextualism, for which successful working is the goal, it does not necessarily imply that Functional Contextualism will be the

best way in which to achieve the goal of successful working. That is, the proof is in the pudding.

As noted in the target article, there are other potential issues with the pragmatic orientation. Chief among these issues is the evaluation of the truth criterion of successful working, which is argued to rely on the correspondence of statements with events in the world. The argument runs as follows, in order to evaluate successful working it is necessary to evaluate the relationship between a statement about successful working (i.e., a statement about an intended practical end) and an event in the world to which that statement refers (i.e., the occurrence of the practical end). This evaluative activity is an assessment of correspondence – an assessment of how a statement maps onto, or refers to, an event. Thus, in order to evaluate successful working, pragmatism relies, at least to some extent, on a weak form of correspondence. This is justified by pragmatists on practical and not ontological grounds. However, the argument that evaluations of successful working are based on correspondence with an events in the world is difficult to counter within the confines of everyday discourse.

One way to do so is to suggest that the talk and the talked about are not entirely separate. There is then nothing that can be said *about* anything. This undermines the referential nature of statements *within* individuals, and precludes an evaluation of successful working by anyone. An alternative method of dealing with the issue of correspondence involves suggesting that statements made about an independent reality can only be assessed with regard to a particular behavioral stream (Barnes-Holmes, 2000). This, however, undermines the referential nature of statements *across* individuals, and similarly precludes the evaluation of successful working by others. An analyst is free to accept this position, but it is acknowledged by its author to be pointless, at least in this respect (but see Barnes & Roche, 1997, and Barnes-Holmes, 2005). These arguments were neatly summarized by L.J. Hayes:

“... an observer's description of his or her observations cannot be understood to reflect an absolute or universal reality, but merely the reality historically and uniquely experienced by the observer. No description is free from the idiosyncratic and cultural histories of the describer. Pragmatism, as such, does not overcome the problem of bias in truth-telling, it merely entertains multiple biases.” (L.J. Hayes, 1997, p 585).

This passage clearly highlights the problem. It also states the solution. Entertain multiple biases. This solution, ‘holding terms lightly’, is adopted by Functional Contextualism, and is presented in several Functional Contextualist writings (Wilson, 2016). If instead of pursuing these arguments about correspondence to the nth degree, we step back from the limit and return to the everyday world, where aside from differentiating the purposes of analysts, these arguments are of little practical import. Words do refer. The reference can be clarified, but not demonstrated. Some level of correspondence between statements and verifiable experiences is assumed on practical, not ontological, grounds. Although analysts have a unique history of behavior, and the impact of these differences in individual histories on correspondence may not be simple, they cannot be escaped, and still, efforts to communicate are made. It is possible to speak ontologically to get things done (Barnes & Roche, 1997, Barnes-Holmes, 2005), and doing so does not require adopting assumptions with ontological implications. In this way the pragmatism of Functional Contextualism resolves the issue of correspondence by either ignoring it or acknowledging it, and then appealing to pragmatism.

Note that the issue of talk about events in the world is dealt with in a similar manner in Interbehaviorism. Knowledge generation involves investigative activities, and the events interacted with in the course of those activities, both of which have spatio-temporal

properties. That is, the analyst speaks of things, and actions with respect to things. No more and no less. Thus, in Interbehaviorism “Reality problems do not enter into the scientific domain at all. Rather, the problems are those of efficiency and achievement.” (Kantor, 1959, p 214).

As mentioned above Functional Contextualism is pragmatic if it proves to aid the effective action of individuals adopting its perspective. It is possible that some of the descriptions arising from Functional Contextualism do not afford efficient practical action. It is also possible that some of the practices arising from Functional Contextualism may frustrate successful working. Readers may note the irony that Functional Contextualism is not always functional. When we found that Functional Contextualism did not serve our ends well, we turned to concepts described within Interbehaviorism. We acknowledge that by doing so we did not depart from a Functional Contextualist perspective, rather we adapted it so that it facilitated our analytic goals. This is more in line with a generally non-dogmatic approach to pragmatism (see S.C. Hayes, 1993). Indeed, the strength of Functional Contextualism is that Functional Contextualism itself is held lightly.

Reaching for Interbehavioral Concepts.

It is relatively easy to see why Interbehaviorism may aid the Functional Contextualist. L.J. Hayes and Fryling (2019) note Interbehaviorism is a well-defined philosophical system developed over the course of several decades. In addition, its psychological outgrowth, Interbehavioral Psychology, has been the subject of a book length treatment (Kantor, 1959). In contrast, Functional Contextualism is outlined in roughly a dozen articles and book chapters (e.g., S.C. Hayes, 1993, Biglan & S.C. Hayes, 1996; Barnes & Roche, 1997; S.C. Hayes, 1997; Gifford & S.C. Hayes, 1999; Barnes-Holmes, 2000; S.C. Hayes, Barnes-Holmes, & Roche, 2001; Barnes-Holmes, 2005; Fox, 2006; S.C. Hayes, Barnes-Holmes, & Wilson, 2012; Biglan & S.C. Hayes, 2016, Wilson, 2016). To date there has been no book

singly devoted to the explication of Functional Contextualism. Functional Contextualism is, of course, a more recent addition to the set of behavioral epistemologies, nonetheless, it remains the case that it is less explicitly articulated than its Interbehavioral counterpart. In light of this difference in articulation there is reason to suspect that there are aspects of the Interbehavioral tradition that may be of use to analysts of a Functional Contextual orientation. Indeed, there are several benefits to doing so. We will illustrate this point by describing a specific instance in our own analyses of behavior.

Private events - Is relating something that is done ‘inside the head’?

Functional contextualism, following the path cleared by Skinner (1945), admits a place for private events in analyses of behavior. This place for private events in analyses is made on pragmatic grounds (Skinner, 1974, Biglan & S.C. Hayes, 2016), and private events are not seen as the end point of an explanatory analysis because they do not permit prediction-and-influence (S.C. Hayes & Brownstein, 1986). Private events are retained, however, on the basis that it is the verbal behavior of the scientist that is critical in achieving scientific goals, and if speaking about private events produces more effective action then this talk should be retained. This is an important technical point. However, we will leave the analysis of scientific behavior to one side for a moment. Instead, we would like to suggest that in conducting an analysis it is useful to retain a focus on the acceptable products of such an analysis – constructions which permit successful interaction with behavior. Critically, in Functional Contextualism the talk about private events is not clearly separated from talk about publicly observable events. For example, Skinner (1945) argues that private behaviors are no different in essence to publicly observable behaviors. This can pose unnecessary difficulties during the constructional activities of an analyst. Allow us to elaborate.

In the target article L.J. Hayes and Fryling note that in relation to hypotheses, theories, and laws “... Kantor proposes that these constructions be derived from no source other than

actual interbehavior with the things and events investigated ...” (L.J. Hayes & Fryling, 2019, p 121). The separation of constructs from events provides a clear delineation of acceptable subject matter in an analysis of behavior: interrelationships of natural events are acceptable subject matter; the rest is a construction. This applies equally to the domains for which private events are frequently invoked. Private events do not involve *inter*behavior. According to this view thinking and remembering are not private events but constructions of publicly observable events (see Fryling & L.J. Hayes, 2010, 2014).

The distinction between constructs and events is highlighted by the following question regarding relational responding: is relating something happens ‘inside the head’?¹ Consider the following examples. First imagine a typical procedure to assess relational responding. A fear evoking function is established for stimulus A, a relationship is established between stimulus A and B such that $A < B$, and the functions of B are then assessed with a skin conductance measure. If B comes to evoke more fear than stimulus A, we might conclude that B acquired its functions based on its relationship with A. Critically, the relational response is not observed. After observing changes in the function of B (i.e., neutral to fear evoking), a relational response is inferred. This aspect of studying relational responding is not generally made as explicit as it is here. The argument, however, is not entirely new. For example, Dymond and Barnes (1994) argued that “*the observed pattern of a transfer of functions defines the entailed relations*, and thus the entailed relations (e.g., symmetry and equivalence) do not exist as a behavioral event until a specific transfer of functions has occurred” (p. 264, *italics in original*).² Thus, although it is possible to conclude that the participant has related A

¹ This rhetorical question was asked by Mitch Fryling during an informal meeting at the Conference of European Association for Behavior Analysis. In RFT terms, of course, relating is always an over-arching temporally extended act in context, and thus the idea that relating occurs ‘inside the head’ is inconsistent with the RFT definition. Nonetheless, while there is a place for private events within an analysis the question of relating inside the head is entirely reasonable.

² This argument has also been made by Barnes & Roche (1996, p 497), and Hayes, Barnes-Holmes, & Roche (2001, pp. 33-34) “The contextually controlled qualities of mutual entailment, combinatorial mutual entailment, and transformation of stimulus functions are outcomes, not processes. They do not explain relational frames: they define them.”

and B ‘inside their head’, this act of relating will not have been observed directly. What has been observed is the extended event previously described (i.e., the interbehavior involved in A acquiring a function, a relationship being established between A and B, and, critically, the function of B being tested). What we attempt to highlight here is that the term “relational response” summarizes a spatio-temporally extended set of situated behavioral events, and does not refer to a single event that can be isolated to a particular moment in time and hence be observed directly (e.g., a response at the moment of the test when stimulus B is presented to the participant). Similarly, reinforcement as a process is never observed directly. What is observed are differences in the rate of responding at different points in time, after application of contingent consequences that increase the rate of responding and extinction procedures that reduce the rate of responding. The procedures and behaviors are observed, but the construct of reinforcement as a process is not observed, it is inferred. Events are observed, but causal constructs are not.

Now imagine a more complex example in which more instances of relational responding may be inferred. Novel stimuli A, B, C and D, are provided functions and relations are established such that $A = B$, and $C = D$. Participants are asked to confirm or deny whether A and B are related in the same way as C and D (see left panel of Figure 1). Participants are likely to confirm that these stimuli are related in the same manner and select the response option ‘Yes’. If they do so successfully, have they related the stimuli ‘inside their heads’? If so, which stimuli were related and how were they related? How might this be assessed? If I attempt to assess an interpretation involving private events by manipulating environmental variables, which private response(s), if any, change(s) as a function of these manipulations? For example, if the functions of stimulus A are altered from “+” to “-” multiple elements of this stimulus constellation change (compare the left and right panels of Figure 1). The relationship between A and B changes, as does the relationship between the

relations. This suggests that a single environmental manipulation can result in the alteration of multiple private responses. This may pose a behavioral control problem if we have concluded that the stimuli are being related ‘inside the head’. The more an analysis involves private events, the less of a role played by the manipulable context. Allowing for private events may thus serve to undermine achieving prediction-and-influence via contextual control, which is the truth criterion of Functional Contextualism itself.

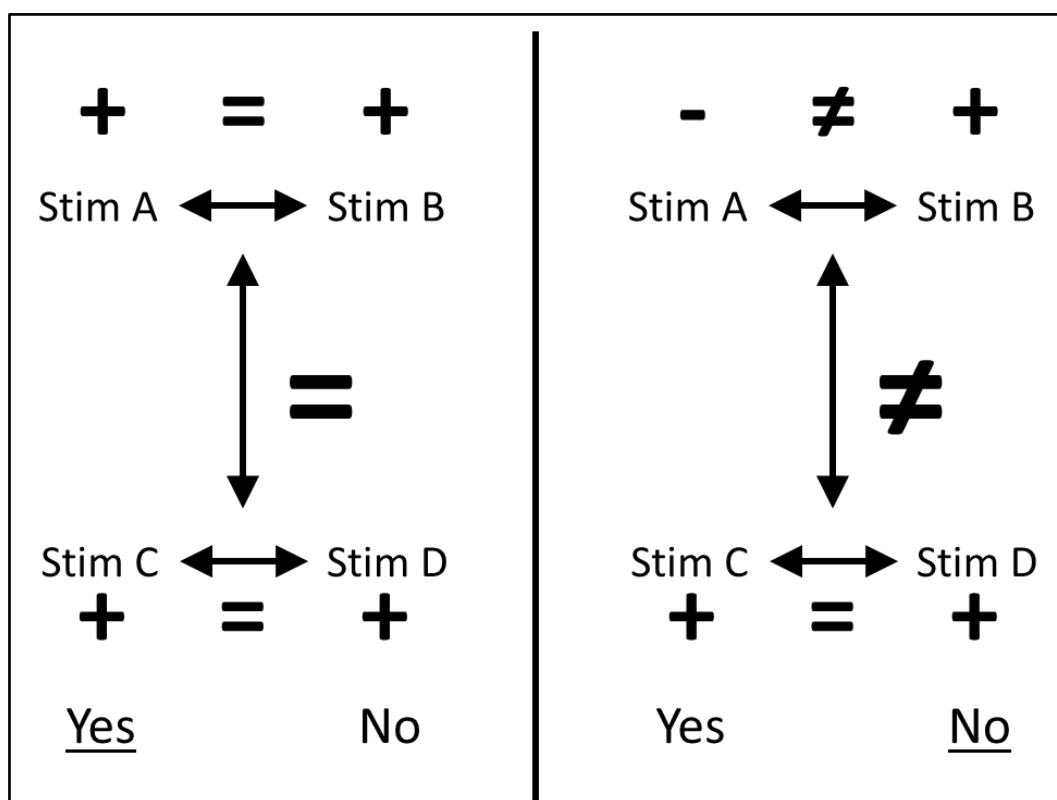


Figure 1. A depiction of two hypothetical instances of relating relations. The ‘correct’ response is underlined.

In contrast, Interbehaviorism does not allow for private events. When an interbehavioral analysis fails to appeal to interbehavior, talk of events is left behind and talk of constructions begins, but the domain ‘inside the head’ remains unanalyzed. The distinction between constructs and events is not made clear in Functional Contextualism, which can have unfortunate and, likely unintended, consequences. The practical consequence of the delineation is that it makes for more efficient study of the observed events. Allow us to stress that this is not a conjecture. This claim is made only because this is what occurred in our own

analyses of complex behaviors. In conducting these analyses, it was tempting to incorporate unobservable mediating relational responses that could not be linked to particular observable stimuli and manipulated independently of other mediating relational responses. This would have been unacceptable to both Functional Contextualists and Interbehaviorists; for Functional Contextualists on the grounds that it would have resulted in non-manipulable mediating responses (S.C. Hayes & Brownstein, 1986); for Interbehaviorists on the basis that by invoking events occurring ‘inside the head’ the question does not involve acceptable subject matter and so does not arise (i.e., interbehavior; Kantor, 1959, see also Fryling & L.J. Hayes, 2009).

Let us be clear and state that both sets of analysts would likely produce similar historical explanations. History is a causal factor in both philosophies,³ and the talk about private events will *eventually* cede to talk about historical environmental interactions. In our case, the analyses were resolved by embracing Kantor’s description of permitted subject matter and the field construct. The point here is not that reading Kantor was a necessary cause in this resolution, rather it is that the separation between constructs and events that is made in Interbehavioral writings can have a significant bearing on the behavior of scientists. A philosophical framework can prevent the asking of unanswerable questions. In this case, Functional Contextualism did not do so (at least not for the current authors).

The treatment of private events in Functional Contextualism is quite technical (see the beginning of this section on p 5). The subtlety of this technical analysis can easily go missing however, and private events may be admitted and remain unanalyzed for a time. This is hardly surprising given that Functional Contextualism exists in a culture where dualism is commonplace. The practical benefits of such a technical treatment of private events can be questioned, as we have done here. It may be wise to guard against issues arising from the

³ In both philosophies functional relations between current and historical behavioral episodes are part of their causal constructs (Skinner, 1981; see also L.J. Hayes & Fryling, 2019, p 123 on causes).

Functional Contextualist treatment of private events by adopting the Interbehavioral definition of subject matter, and embracing the separation of constructs and events. This separation may also be of use in dealing with the tendency to slip toward mechanism within Functional Contextualism.⁴ Another important consequence of the distinction between constructs and events is that it discourages the analyst from studying their own constructions. For example, instead of attempting to falsify a construction by comparing it to an alternative construction, the two constructions can be compared as tools to achieve prediction-and-influence. This perspective is practical for the additional reason that it saves time that might be put into repeating demonstrative activities. That is, the activity that lead to the generation of a particular construction need not be repeated, instead activities that refine a construction as a tool for prediction-and-influence may be engaged in. Interbehaviorism may thus serve as an antidote to the retardative impact such practices that may arise from Functional Contextualism as it is currently formulated.

A second concept articulated by Interbehaviorists that we found to be of particular use in our analyses is the interbehavioral field (e.g., Barnes-Holmes, Barnes-Holmes, & McEntegart, 2020, Finn, 2020). We will limit our description of the interbehavioral field to the components which had a bearing on our analytic activities. We do not consider our description of the interbehavioral field to be complete, and neither should it be taken to be so. For more detailed descriptions we direct the interested reader to those provided elsewhere (e.g., L.J. Hayes and Fryling (2018) for a brief introduction, and Kantor (1959) for a more complete description).

At its simplest the interbehavioral field deals with the interaction of individuals with stimulus objects, and does so on the basis of their previous interactions with stimulus objects.

⁴ "... when I divide an event into pieces and distinguish verbs from manipulable nouns, I am beginning to treat context as a mechanical object: I am only a short step away from mechanism." (S.C. Hayes, 1993, p 25).

An important aspect of this construction is that stimulating and responding are taken as a unity. Stimuli do not elicit responses rather they participate in a stimulus-response function, a function which is bidirectional and changes continuously across time. The construction implies that particular features of the environment are not seen as operating in isolation on a particular response. The construction also makes clear the historical nature of current environmental interactions. To illustrate the impact of this construction on our analytic activities we return to the examples we described earlier involving simple relational activity (i.e., $A < B$) and more complex relational activity (i.e., if $A = B$ and $C = D$, are the stimulus pairs related in the same manner?). In both cases it is clear that there is no relating performed ‘inside the head’. Rather, in the first case when the function of stimulus B has changed, the analyst can engage in constructional activity and infer that its function has changed based on its established relationship with A.

A slightly different analysis applies in the second case (where $A = B$, and $C = D$). The elements of complex stimulus arrangements combine to form the stimulation component in the unity of stimulating and responding. Thus, the question of individual responses to individual elements in isolation is rendered non-sensical. The stimulus arrangement presented in asking the question ‘are the stimulus pairs related in the same manner?’ will be responded to based on the acquired properties of that stimulus constellation. Critically, these acquired properties are different at time point 1 and time point 2. When the function of stimulus A is altered and presented within an analogy the result is a reconstitution of the interbehavioral field (compare the right and left panels of Figure 1), and two different patterns of responding may be expected.

The field construct is helpful when dealing with complex behavioral episodes. “From an Interbehavioral perspective, cause and effect amount to nothing more than a covariance of presence and absence ...” (L.J. Hayes & Fryling, 2019, p 123). This is a straightforward

description of a potent tool for an analyst. The description highlights that at best the manipulations of an environment made by an analyst will bring about changes to the variance in observed behaviors given particular arrangements of the field. If a particular variable is introduced and the behavior of interest is altered as a result, the new variable constitutes a factor in the newly constituted behavioral field that interacts with and depends on the other factors in the field. Of course, the impact of the new variable must be interpreted based on previous interbehavioral episodes in which it participated. The historically-determined influence of the complex stimulus arrangement may be inferred by comparing observed responding when particular interbehavioral histories with regard to their sub-elements are present and absent.

The Interbehavioral approach has been criticized for treating all elements of a field constellation as being of equal importance on the grounds that it does not specify where to start thereby paralyzing the analyst (see Hayes, Blackledge, & Barnes-Holmes, 2001, p 8). The argument begins by noting that the constituent elements of an interbehavioral field are of equal importance. This implies that it is not possible to single out a particular element, or factor, as being of particular importance to the target phenomenon. The argument concludes that Kantor's interbehavioral system does not aid experimental analyses because it fails to emphasize particular elements of the target phenomenon. An alternate analysis is equally plausible – the field construct does not specify where to start and thereby frees the analyst to interact with complex phenomena by starting anywhere. Ultimately, where the analyst does choose to start will be informed by their own (inter)behavioral history. On this final point Interbehaviorism and Functional Contextualism do not appear to differ (S.C. Hayes, 1993).

In closing, we would like to echo L.J. Hayes and Fryling in decrying the arbitrary distinction between functional and descriptive contextualisms. The unfortunate consequence of this distinction has been a reduction in Kantorian influence on the activities of Functional

Contextualists, which is all the more unfortunate when considering Hayes and Fryling's argument that Kantor's work should not be taken as an example of descriptive contextualism. As part of an effort to redress this we have attempted to illustrate how drawing on Kantorian concepts has enriched our own work. Of course, we are not suggesting that the Interbehaviorism of Kantor is simply adopted in whole cloth, but rather the field concept should not be discarded due to its loose and erroneous association with descriptive contextualism. Even if our analyses of complex phenomena can be performed in another manner, it would still be appropriate to engage fully with the work of eminent scholars in the Interbehavioral tradition. Indeed, in what is often difficult terrain for a contextualist we should be quick to recognize and embrace our fellow travelers.

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Conflict of interest

The authors declare that there is no conflict of interest.